

REMARKS**INTRODUCTION:**

In accordance with the foregoing, reconsideration of the allowability of the claims is respectfully requested. No new matter has been submitted.

Claims 1-20 are pending, with claims 18 and 19 having been withdrawn, and with claims 1-17 under consideration. Claims 3-5 have been indicated as including allowable subject matter.

REJECTION UNDER 35 USC § 102:

Claims 1, 2, 6, 13, 14, 16, 17, 18 and 20 stand rejected under 35 USC § 102(b) as being anticipated by Maeda et al., U.S. Patent No. 5,303,221. This rejection is respectfully traversed.

The outstanding Office Action has set forth the §102 rejection based upon a particular interpretation of the claims. It is believed a more particular review of the claims may therefore be appropriate.

By way of example, independent claim 1 sets forth an optical pickup comprising two laser beam sources and an optical system projecting the two laser beams and transmitting the beams as reflected from a signal layer of an optical disk.

More particularly, only as an example, independent claim 1 sets forth "an optical system projecting the first and second laser beams to a signal layer of an optical disk and transmitting the first and second laser beams as reflected from the signal layer."

Thus, the claimed optical system both projects the laser beams and transmits the laser beams after being reflected from the optical disk.

In addition, only as an example, independent claim 1 further sets forth "an optical detector detecting the first and second laser beams *transmitted from the optical system*, the optical detector being optimized with respect to the second laser beam."

Thus, the optical detector must be after the optical system and detect the beams transmitted from the optical system.

See col. 4
lines 9-12

Lastly, only as an example, independent claim 1 sets forth "an optical converter converting the first laser beam transmitted from the optical system into the laser beam detectable by the optical detector."

Again, the claimed invention sets forth a particular order of claim elements. In this case, the optical converter must convert a laser beam after the beam is transmitted from the optical system and before the optical detector.

Thus, the order of the claimed elements is particularly set forth at least as being the laser beam sources, the optical system, the optical converter, and then the optical detector.

The Office Action has interpreted Maeda et al. as disclosing the claimed two light sources as the light source 1 and nonlinear optical resonator 2, the claimed optical detector as detector ¹⁰14, and the claimed optical converter as phase hologram 11, as illustrated in FIGS. 1 and 2 in an embodiment of Maeda et al.

In addition, the Office Action would also appear to interpret the claimed optical system as being equivalent to all the laser source 1, nonlinear optical resonator 2, beam splitter 3, collimator lens 4, objective lens 5, dichroic mirror 7, and photo detector 8, as illustrated in a *different* apparatus of the prior art in FIG. 3 of Maeda et al.

First, it is noted that the Office Action is actually combining two distinct apparatuses in this rejection, as the Office Action has found the light sources, optical converter, and optical detector in an embodiment (FIGS. 1 and 2) of Maeda et al. and thereafter finds the optical system in a *different* apparatus (FIG. 3) of the prior art. Therefore, by default interpretation, the Office Action has already interpreted Maeda et al. as not disclosing all the claimed features.

Secondly, as noted above, language describing the present invention in the claims has been particularly chosen to clearly evidence staged elements, i.e., the optical detector is after the optical converter, which is after the optical system, which is after the light sources.

Conversely, the aforementioned interpreted equivalent features in Maeda et al. do not follow this particularly claimed sequencing. Rather, the Office Action's sequencing would be more akin to the light sources being followed by the optical converter, followed perhaps by the optical system, which is followed by the optical detector. See FIG. 1 of Maeda et al., for example.

Independent claim 1 particularly details that the optical converter converts light transmitted from the optical system, while the optical system indicates that light that is

transmitted is light that has already reflected off of the optical disk. Accordingly, the optical converter cannot be before the optical system, as interpreted in the Office Action.

In addition, the Office Action is vague as to which elements in Maeda et al. are meant to correspond to the claimed optical system. As noted above, independent claim 1 requires the optical system to project the laser beams to a signal layer of the optical disk and then transmit the reflected beams. In Maeda et al., arguably, the only elements that would appear to be even remotely able to correspond to these requirements would be beam splitter 3, collimator lens 4a and objective 5a. See Maeda et al. in FIG. 1. Only these three elements of Maeda et al. would appear to perform both of the claimed requirements, i.e., both projecting the laser beams and transmitting the reflected laser light.

Thus, it would appear that the Office Action has interpreted features in the Maeda et al. reference as corresponding to claimed elements **but** has failed to find in Maeda et al. the particularly claimed sequencing of such claim elements. The independent claims all include specific inherent sequencing, with differing scope and breadth.

Therefore, for at least the above, it is respectfully requested that this §102 rejection of the independent claims be withdrawn and the independent claims be allowed. In addition, for at least similar rationale, claims depending from the independent claims are at least allowable based on their dependencies from the independent claims.

REJECTION UNDER 35 USC §103:

Claims 1, 2, 6, 13, 14, 16, 17, 18 and 20 stand rejected under 35 USC § 103 as being obvious over Maeda et al., in view of Prior Art, encompassing the background of the present application. This rejection is respectfully traversed.

The Office Action indicates that if Applicant can convince the Examiner that the optimization of the detector in Maeda et al. is not inherently present in Maeda et al., then the Examiner would rely upon Prior Art to teach the ability of appropriately controlling the servo/focus system accordingly to optimize the read out signal.

Specifically, the Office Action recites that it would have been obvious to modify Maeda et al. to control the servo/focus system to optimize output, according to Prior Art, with the motivation being "to use well known techniques to yield a usable output signal."

In support of this obviousness rationale, the Office Action cites In re Kotzab, 55 USPQ2d 1313 (2000).

However, In re Kotzab does not support a rationale of modifying one system to include a feature from another system merely based on that feature being a well known technique.

Particularly, In re Kotzab states: "[a]lthough [the] test for establishing implicit teaching, motivation, or suggestion in prior art is what combination of prior art statements would have suggested to those of ordinary skill, such statements must be considered in [the] context of [a] teaching of [an] entire reference, and cannot be viewed in abstract, and rejection of claims cannot be predicated on mere identification in [the] prior art reference of individual components of claimed limitations; rather, particular findings must be made as to reason [that the] skilled artisan, with no knowledge of claimed invention, would have selected these components for combination in [the] manner claimed." Id.

In re Kotzab requires a prima facie obviousness rejection to be based on motivation or suggestion and indicates that such motivation may come from what one of ordinary skill in the art may have known, but such analysis must include particular findings related to what one skilled in the art would have known and why; "conclusory statements standing alone are not 'evidence'." Id. at 1317.

In addition, there must be substantial evidence in the record of the aforementioned particular findings.

Thus, as this obviousness rejection relies on merely a conclusory statement supporting the modification of Maeda et al., to include the purported optimization feature, substantial evidence has not been provided substantiating a prima facie obviousness rejection.

Further, it is noted that in rejecting claim 17, the Office Action again relies on case law, and in particular In re Peterson, 65 USPQ2d 1379, to support a conclusion that "having similar or identical spot sizes is merely optimization of system parameters and obvious to those of ordinary skill in the art."

Claim 17 sets forth the claimed feature of the addition of a holographic lens "having a pattern in which the first laser beam is converted into parallel rays so as to cause the size of the optical spots generated by the first and second laser beams to be identical."

Thus, regarding claim 17, the Office Action is essentially stating that since Maeda et al. references beam spots being focused "at a predetermined spot diameter" and/or "a desired spot

diameter," then the additional qualifier of each beam spot being identical would merely be an optimization of the optical detector, and obvious to one of ordinary skill in the art.

However, as noted above, In re Kotazab particularly indicates that such conclusory statements without substantial evidence, including particular findings, fail to meet a required prima facie obviousness standard.

The Office Action appears to rely on In re Peterson to support the availability of this rationale. However, In re Peterson is only particularly directed toward inferring the obviousness of a modification of a broader range, which already encompasses a claimed narrower range, as being equivalent to the narrowed range. In addition, In re Peterson further substantiates the aforementioned finding of In re Kotazab since the ruling confirms that the examiner and Board provided sufficient evidence, primarily since the broader range disclosed by the reference already encompassed the narrower range.

Thus, In re Peterson, like In re Kotazab, particularly requires a prima facie obviousness rejection to provide substantial evidence, including particular findings, supporting the purported motivation for modifying an underlying reference. Conclusory statements are not sufficient.

The outstanding rejection of claim 17 merely states a conclusory statement of what one skilled in the art would have inferred, without any particular findings and no substantial evidence. Therefore, this rejection fails to meet a prima facie obviousness standard.

In addition, as noted above, Maeda et al. further fails to disclose the particularly claimed sequencing, as recited in the independent claims, with differing scope and breadth. Similarly, for at least similar rationale, claims depending from the independent claims are also in proper condition for allowance.

Claims 1, 2, 6, 7, 13, 14, 16 and 20 stand rejected under 35 U.S.C. §103(a) as being obvious over the acknowledged prior art (Prior Art) (either Figure 1 or 2 as submitted) in view of Maeda et al. Claims 12 and 15 stand rejected under 35 USC §103 as being obvious over Prior Art and Maeda et al., in further view of Brazas et al., U.S. Patent No. 5,696,749, or Yoo et al., U.S. Patent No. 6,222,812. Claims 7-11 and 17 stand rejected under 35 U.S.C. §103(a) as being obvious over the art as applied to claim 4 above, and further in view of Kajiyama et al., U.S. Patent No. 6,181,668. These rejections are respectfully traversed.

Again it is noted a conclusion of obviousness made from common knowledge and common sense of an examiner without any specific hint or suggestion in a particular reference or substantial evidence, including particular findings, of what one skilled in the art would have known, is improper. In addition, merely stating that a combination would have been obvious, or an obvious modification, without such substantial evidence, is improper.

The Office Action sets forth that Prior Art fails to disclose only the use of two light sources, and thereafter indicates that it would have been obvious to modify Prior Art to use two light sources "to use equivalent abilities in order to provide for a dual wavelength optical pick up device. Selection between alternative equivalent structures is a function of system criteria such as cost, availability, reliability, etc., routinely performed by those of ordinary skill in the art."

However, again this is merely a conclusory statement, and doesn't address the issue of why one skilled in the art would modify Prior Art to include two light sources.

In addition, the recitation regarding substituting equivalent structures is irrelevant to the motivation for modifying Prior Art, in view of Maeda et al., to disclose the presently claimed invention.

Prior Art, as illustrated in FIG. 2 of the present application, illustrates the use of a single light source illuminating a prism, the prism projecting light to a optical disk and transmitting reflected light to a single light receiving lens and ultimately to the optical detector.

As detailed in the present application, to modify Prior Art to utilize two light sources is very difficult. Particularly, at the bottom of page 3, the present application details that systems using two light sources have been developed but either require two different optical pickups or one pickup with two objective lenses, for example. The present application indicates that the shortcomings of such a system are the requirement of additional parts and increase in size and costs.

Conversely, Maeda et al. sets forth a single pickup that produces two light sources and doesn't require multiple objective lenses for each light source. Maeda et al. illustrates in FIG. 1 the preferred optical pickup for achieving such a simplified pickup.

It is respectfully submitted that if one skilled in the art were to modify Prior Art, in view of Maeda et al., the modified Prior Art would include most if not all of the features of Maeda et al., essentially becoming Maeda et al. For example, FIG. 2 illustrating Prior Art would merely appear to be a simplified version of FIG. 1 or 3 of Maeda et al., but for a single light source. Therefore, if one skilled in the art were to modify Prior Art, the teaching provided by Maeda et al. would lead one skilled in the art to make similar modifications illustrated in Maeda et al., as noted above, resulting essentially in Maeda et al.

In contrast to such a modified Prior Art, the present application has provided a separate and distinct method and system for accomplishing the aforementioned improvement of Prior Art. In addition, since Maeda et al. is different from the presently claimed invention, then Prior Art modified in view of Maeda et al. would similarly be different from the presently claimed invention.

Therefore, for at least the above, it is respectfully requested that this rejection be withdrawn and the claims allowed.

In rejecting claims 12 and 15, the Office Action relies on Yoo et al. or Brazas et al. to disclose the use of collimating lenses for light sources. The Office Action further indicates that it is well known that collimating lenses are used for their inherent ability.

Thereafter, the Office Action indicates that "[u]se of separate light paths for each single light source provides for better optical isolation as well as increasing overall reliability of a system, i.e., the reliability or mean time between failure of system components increases with parallel signal lines."

Based on these conclusions, the Office Action further concludes that "either of the above references to either Yoo et al. or Brazas et al. disclose such alternative optical signal paths, and it would have been obvious to modify the base systems as stated above...with the above dual light path, motivation is to increase system reliability."

Thus, the Office Action relies on Yoo et al. and Brazas et al. to disclose using collimating lenses. Thereafter the Office Action sets forth the conclusion that systems with separate optical paths for each light source increases overall reliability of a system. Finally, the Office Action again concludes that since separate optical paths increase overall reliability, it would have been obvious to modify Prior Art to use collimating lenses.

However, the above rationale is flawed. The Office Action fails to provide any support for the proposition that separate optical paths increase system reliability. Such a conclusion would

actually appear to be counterintuitive, since any multiplying of parts in a system would generally lead one to conclude that the system may be less reliable. Regardless, the Office Action provides no support for this conclusion.

In addition, regardless of whether it is obvious to have multiple optical paths, the Office Action has still failed to provide support for the use of the collimating lenses. The addition of even more elements to a the multi-path system would intuitively increase costs or potentially reduce reliability.

Thus, the Office Action has failed to provide substantial evidence supporting the reasoning for modifying Prior Art as proffered, and thereby fails to provide a prima facie obviousness rejection.

In the rejection of claims 7-11 and 17, the Office Action has indicated it would have been obvious to further modify Prior Art to include a holographic lens disclosed by Kajiyama et al., "to provide for an appropriate holographic lens to project the light beams onto the record medium. Use of existing elements save valuable resources such as time, i.e., not requiring recreating components already in use in the environment."

However, as noted above, In re Kotzab particularly points out that conclusory statements, when the Examiner is relying on what one of ordinary skill in the art would have known, is not proper without substantial evidence with particular findings of fact supporting that conclusion.

The rejection fails to provide support for the purported need in the modified Prior Art for the holographic lens. Rather, the Office Action merely states that it would have been obvious to use the holographic lens of Kajiyama et al. to provide an appropriate holographic lens.

Similar to the above misunderstanding of the particularly claimed sequenced claim features, the Office Action sets forth the rationale that it would have been obvious to add a holographic lens to the claimed optical converter "to provide an appropriate holographic lens to project the light beams onto the record medium."

However, the claimed optical converter converts light that has already reflected off of the optical disk, so there is not need to add a holographic lens to project light onto the optical disk. Thus, the purported motivation is irrelevant.

Therefore, for at least the above, it is respectfully requested that the rejections of the claims be withdrawn and the claims be allowed.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

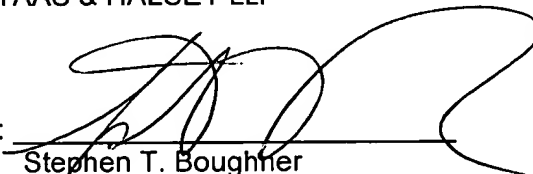
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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